

Appl. No. : 10/032,765  
Filed : October 29, 2001

### LISTING OF CLAIMS

This listing of claims replaces all prior listings and versions of claims in the application.

1-73. (Cancelled)

74. (Currently Amended) A system for monitoring physiological status of a mammalian subject, comprising:

a. one or more biointerface heads (BIH), each comprising one or ~~more~~ both of a sensor for measuring a physiological parameter and a device for therapeutic compound delivery, at least one of said biointerface heads being implanted subdermally and configured to communicate data and a BIH identifier ~~with data related to said physiological parameter;~~

b. at least one control and communication module (CCM) attached to an external surface of said subject and storing a CCM identifier and which is linked to at least one biointerface head to receive said data and said BIH identifier, wherein said control and communication module processes data from at least one biointerface head;

c. at least one data collection unit (DCU) which receives data and said identifiers from the control and communication module; and

d. a remote database management system which receives data from the at least one data collection unit and processes said data.

75. (Previously Presented) The system of Claim 74, wherein said biointerface head is attached to said mammalian subject with at least one adhesive.

76. (Previously Presented) The system of Claim 75, wherein said adhesive contains one or more of the groups comprising: growth factors, adherence molecules, adherence attractants or factors which promote cutaneous wound-healing mechanisms and formation of an epithelial-like structure around a portion of said system.

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77. (Previously Presented) The system of Claim 74, wherein said system comprises a transdermal conduit and a biofluid access port, and wherein the transdermal conduit and biofluid access port are coated with a hydrogel material.

78. (Cancelled)

79. (Currently Amended) The system of Claims 77 ~~or 78~~, wherein the hydrogel material contains preservatives, anti-inflammatory agents, antibiotics or antimicrobial agents.

80. (Currently Amended) The system of Claims 77 ~~or 78~~, wherein the hydrogel material contains a chemical, compound or molecule for calibration of the sensor.

81. (Currently Amended) The system of Claim ~~74~~ 77, wherein the transdermal conduit comprises a fluid material containing preservatives, anti-inflammatory agents, antibiotics or antimicrobial agents.

82. (Previously Presented) The system of Claim 74, wherein said system comprises a chamber which releases one or more therapeutic agents.

83. (Currently Amended) A system comprising:  
a subdermal physiological parameter sensor to measure a physiological parameter of a mammalian subject and to generate measurement information based on the measurements;  
a mounting structure that anchors said system to a dermal layer;  
a flexible transdermal conduit attached to said mounting structure at or near a first end, wherein said transdermal conduit is in contact with a sensor assembly;  
a sensor mounting head, wherein said sensor mounting head is attached to a second end of said transdermal conduit;  
a biofluid access port within said sensor mounting head, the biofluid access port further comprising microstructures ~~capable of~~ allowing biofluid flow into the transdermal conduit to contact the sensor assembly and block transmission of external pathogens into a subject;

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a control and communication module in data communication with the physiological parameter sensor to receive the measurement information from the physiological parameter sensor, the control and communication module including signal processing circuitry to generate and transmit a first signal based on the measurement information.

84. (Cancelled)

85. (Previously Presented) The system of claim 83, wherein the control and communication module further comprises signal encryption circuitry to encrypt the first signal for transmission.

86.-88. (Cancelled)

89. (Currently Amended) The system of Claim 83, wherein said ~~biointerface head~~ mounting structure is attached to said mammalian subject with at least one adhesive.

90. (Previously Presented) The system of Claim 89, wherein said adhesive contains one or more of the groups comprising: growth factors, adherence molecules, adherence attractants or factors which promote cutaneous wound-healing mechanisms and formation of an epithelial-like structure around the mounting ~~ring~~ structure.